

ABSTRACT.

## ABSTRACT OF THE Disclosure

The invention relates to a method of reading out the sensor elements of a sensor (1) with a matrix of light-sensitive or X-ray-sensitive sensor elements ( $S_{1,2}; S_{1,2} \dots$ ) which are arranged in rows and columns and generate charges in dependence on the incident quantity of radiation, the switches (3) of the relevant sensor elements being activated via address lines (4, ..., 8, ...) and the charges of the respective activated sensor elements being drained via read-out lines (9, 10, 11, ...) so as to be processed further by way of amplifiers (14, ..., 18, ...) and transfer means (19). The invention also relates to a corresponding sensor as well as to an X-ray examination apparatus which includes an X-ray source for emitting an X-ray beam for irradiating an object in order to form an X-ray image, as well as a detector for generating an electrical image signal from said X-ray image. Despite the small incident X-ray doses, adequate amounts of charge, and hence electrical signals, are provided so as to form the image in that ingoing address lines (4, ..., 8, ...) are selectively connected, by way of individually controllable switch elements (27, ..., 30, ...) and by means of a switching operation, to each time the respective next address line and the sensor elements of at least two neighboring lines are activated by means of one ingoing signal, and corresponding outgoing read-out lines (9, ..., 13, ...) are selectively connected, by way of individually controllable switch elements (31, ..., 34, ...) and by means of a switching operation, to the respective next read-out line in such a manner that the charge signals read out from the activated sensor elements of at least two neighboring columns are combined so as to form one output signal.

Fig. 1